

**CLAIMS:**

*Sub 1*

1. A method for modification of color values in a page description file, the method comprising:

5 identifying implicit color commands within the page description file; and converting the implicit color commands within the page description file to explicit color commands.

10 2. The method of claim 1, wherein converting the implicit color commands includes converting the implicit color commands without raster image processing the page description file.

15 3. The method of claim 1, further comprising modifying color values specified by the explicit color commands.

20 4. The method of claim 1, wherein one of the implicit color commands defines reproduction of a graphic image object over a color range, and the corresponding explicit color command defines reproduction of the image object by reproduction of individual color values within the color range.

25 5. The method of claim 1, wherein the conversion includes converting substantially all of the implicit color commands within the page description file to explicit color commands.

6. The method of claim 1, wherein one or more of the implicit color commands is a shading command that defines a graphic image object characterized by a starting color value, an ending color value, and a shading function over a range of color values between the starting color value and the ending color value.

5        7. The method of claim 6, wherein the explicit color command for the shading command defines the graphic image object as a plurality of sub-objects, each of the sub-objects being assigned a color value corresponding to a color value produced by the shading function in an area of the graphic image object corresponding to the respective sub-object.

10        8. The method of claim 1, wherein the color values include cyan, magenta, yellow, and black color values.

10        9. The method of claim 1, wherein the explicit color commands, upon raster imaging processing, define visual output that is analogous to visual output defined by the corresponding implicit color commands.

10        10. A computer-implemented system for modification of color values in a page description file, the system comprising a processor that is programmed to:  
identify implicit color commands within the page description file; and  
convert the implicit color commands within the page description file to explicit color commands.

11        11. The system of claim 10, wherein the processor is programmed to convert the implicit color commands without raster image processing the page description file.

25        12. The system of claim 10, wherein the processor is programmed to modify color values specified by the explicit color commands within the page description file.

30        13. The system of claim 10, wherein one of the implicit color commands defines reproduction of a graphic image object over a color range, and the corresponding explicit color command defines reproduction of the image object by reproduction of individual color values within the color range.

14. The system of claim 10, wherein the processor converts substantially all implicit color commands within the page description file to explicit color commands.

5 15. The system of claim 10, wherein one or more of the implicit color commands is a shading command that defines a graphic image object characterized by a starting color value, an ending color value, and a shading function over a range of color values between the starting color value and the ending color value.

10 16. The system of claim 15, wherein the explicit color command for the shading command defines the graphic image object as a plurality of sub-objects, each of the sub-objects being assigned a color value corresponding to a color value produced by the shading function in an area of the graphic image object corresponding to the respective sub-object.

15 17. The system of claim 10, wherein the color values include cyan, magenta, yellow, and black color values.

20 18. A computer-readable medium storing program code that upon execution by a processor:  
identifies implicit color commands within the page description file; and  
converts implicit color commands within the page description file to explicit color commands.

25 19. The computer-readable medium of claim 18, wherein the program code is arranged to convert the implicit color commands without raster image processing the page description file.

30 20. The computer-readable medium of claim 18, wherein the program code is configured to modify color values specified by the explicit color commands within the page description file.

21. The computer-readable medium of claim 18, wherein one of the implicit color commands defines reproduction of an image object over a color range, and the corresponding explicit color command defines reproduction of the image object by reproduction of individual color values within the color range.

5

22. The computer-readable medium of claim 18, wherein the program code is configured such that the processor converts substantially all implicit color commands within the page description file to explicit color commands.

10

23. The computer-readable medium of claim 18, wherein one or more of the implicit color commands is a shading command that defines a graphic image object characterized by a starting color value, an ending color value, and a shading function over a range of color values between the starting color value and the ending color value.

15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30

24. The computer-readable medium of claim 23, wherein the explicit color command for the shading command defines the graphic image object as a plurality of sub-objects, each of the sub-objects being assigned a color value corresponding to a color value produced by the shading function in an area of the image object corresponding to the respective sub-object.

25. The computer-readable medium of claim 18, wherein the color values include cyan, magenta, yellow, and black color values.

25

26. A method for modification of color values in a page description file, the method comprising:

identifying implicit color commands within the page description file; and  
converting each of the implicit color commands within the page description file to a plurality of implicit color sub-commands,

30

wherein each of the implicit color commands pertains to a spatial area, and each of the implicit color sub-commands pertains to a sub-section within the spatial area.

27. The method of claim 26, wherein converting the implicit color commands includes converting the implicit color commands without raster image processing the page description file.

5 28. The method of claim 26, further comprising modifying color values specified by the implicit color sub-commands.

10 29. The method of claim 26, wherein the conversion includes converting substantially all of the implicit color commands within the page description file to implicit color sub-commands.

30. The method of claim 26, wherein the conversion includes converting some of the implicit color commands within the page description file to implicit color sub-commands, and converting others of the implicit color commands to explicit color commands.

31. The method of claim 26, wherein the color values include cyan, magenta, yellow and black color values.

32. A computer-implemented system for modification of color values in a page description file, the system comprising a processor that is programmed to:

identify implicit color commands within the page description file; and

convert each of the implicit color commands within the page description file to a plurality of implicit color sub-commands,

25 wherein each of the implicit color commands pertains to a spatial area, and each of the implicit color sub-commands pertains to a sub-section within the spatial area.

30 33. The system of claim 32, wherein converting the implicit color commands includes converting the implicit color commands without raster image processing the page description file.

34. The system of claim 32, further comprising modifying color values specified by the implicit color sub-commands.

5 35. The system of claim 32, wherein the conversion includes converting substantially all of the implicit color commands within the page description file to implicit color sub-commands.

10 36. The system of claim 32, wherein the conversion includes converting some of the implicit color commands within the page description file to implicit color

sub-commands, and converting others of the implicit color commands to explicit color

commands.

37. The system of claim 32, wherein the color values include cyan, magenta, yellow, and black color values.

38. A computer-readable medium storing program code that upon execution by a processor:

identifies implicit color commands within the page description file; and

converts each of the implicit color commands within the page description file to a plurality of implicit color sub-commands,

wherein each of the implicit color commands pertains to a spatial area, and each of the implicit color sub-commands pertains to a sub-section within the spatial area.

25 39. The computer-readable medium of claim 38, wherein the conversion of the implicit color commands includes converting the implicit color commands without raster image processing the page description file.

30 40. The computer-readable medium of claim 38, wherein the program code is arranged to, upon execution by a processor, modify color values specified by the implicit color sub-commands.

41. The computer-readable medium of claim 38, wherein the conversion includes converting substantially all of the implicit color commands within the page description file to implicit color sub-commands.

5 42. The computer-readable medium of claim 38, wherein the conversion includes converting some of the implicit color commands within the page description file to implicit color sub-commands, and converting others of the implicit color commands to explicit color commands.

10 43. The computer-readable medium of claim 38, wherein the color values include cyan, magenta, yellow, and black color values.

44. A method for modification of color values in a page description file, the method comprising:

accessing implicit color commands within the page description file; and  
modifying explicit color values specified by the implicit color commands within the page description file without RIP-converting the page description file.

45. A computer-implemented system for modification of color values in a page description file, the system comprising a processor that is programmed to:  
access implicit color commands within the page description file; and  
modify explicit color values specified by the implicit color commands within the page description file without RIP-converting the page description file.

25 46. A computer-readable medium storing program code that upon execution by a processor:  
accesses implicit color commands within the page description file; and  
modifies explicit color values specified by the implicit color commands within the page description file without RIP-converting the page description file.

30 Add A7